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From: W. Daniel Swayze, Jr.  
Texas Instruments Incorporated  
Facsimile: 972-917-4418  
Phone: 972-917-5633

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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## FACSIMILE COVER SHEET

<input checked="" type="checkbox"/> FACSIMILE COVER SHEET	<input type="checkbox"/> AMENDMENT (# Pages)
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NAME OF INVENTOR(S): Reh	
RECEIPT DATE & SERIAL NO.: Serial No.: 09/588,088 Filing Date: 6/6/2000	
TITLE OF INVENTION: SINGLE-SPEED MASS MEMORY STORAGE DEVICE WITH CONTINUOUSLY VARIABLE READ CHANNEL AND METHOD	
TI FILE NO.: <b>TI-29015</b>	DEPOSIT ACCT. NO.: <b>20-0668</b>
FAXED: <u>4-8-05</u> DUE: 03/15/2005 ATTY/SEC'Y: WDS/tlc	

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Texas Instruments Incorporated  
PO Box 655474, M/S 3999  
Dallas, TX 75265

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Reh

Docket No: TI-29015

Serial No: 09/588,088

Examiner: Le, Kimlien

Filed: 6/6/2000

Art Unit: 2653

For: SINGLE-SPEED MASS MEMORY STORAGE DEVICE WITH  
CONTINUOUSLY VARIABLE READ CHANNEL AND METHODRECEIVED  
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APR 08 2005

**APPEAL BRIEF PURSUANT TO 1.192(c)**Assistant Commissioner for Patents  
Washington, DC 20231

Dear Sir:

<p align="center"><b><u>CERTIFICATION OF FACSIMILE TRANSMISSION</u></b></p> <p>I hereby certify that the following papers are being transmitted by facsimile to the U.S. Patent and Trademark Office at 703- 872-9306 on <u>4-8-05</u></p> <p align="center"><i>Tommy Chambers</i> Tommy Chambers</p>
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The following Appeal Brief is respectfully submitted in connection with the above  
identified application in response to the final rejection mailed October 15, 2004.

**REAL PARTY IN INTEREST**

The real party in interest is Texas Instruments Incorporated.

**RELATED APPEALS AND INTERFERENCES**

Appellants legal representative knows of no appeals or interferences which will be  
directly affected, or have a bearing on the Board's decision.

### **STATUS OF THE CLAIMS**

Claims 1-25 were originally filed.

Claims 6-8, 10-13, 16, 17, and 22-25 stand withdrawn as a result of a Restriction Requirement. Thus, the subject matter of the instant appeal is Claims 1-5, 9, 14, 15, and 18-21.

### **STATUS OF AMENDMENTS**

A Response was filed on December 17, 2004 in connection with the above identified application.

No claims were amended.

No Advisory Action has been received by Appellants; consequently, Applicants believe that this Response has been entered.

### **SUMMARY OF THE CLAIMED SUBJECT MATTER**

A mass memory storage device for reading data stored on a mass memory storage medium on which the data is stored at a substantially uniform density including a support arrangement configured to receive and support the medium. A drive arrangement is operatively connected to the support arrangement such that the drive arrangement rotates the medium at a substantially constant rotational speed when the device is operated in its intended way. A read head for reading the data stored on the medium is positioned adjacent to the medium with the read head being movable relative to the medium. A read channel arrangement for processing the data read by the read head is operatively connected to the read head. The read channel arrangement has a substantially continuously variable read channel data processing rate which varies according to the rate at which the read head reads the data from the medium.

### **GROUND OF REJECTION**

The sole issue on Appeal is whether Claims 1-5, 9, 14, 15, and 18-21 are anticipated under 35 U.S.C. § 102 by Nakamura.

### **ARGUMENTS**

Claims 1-5, 9, 14, 15, and 18-21 are patentable over Nakamura. It is respectfully submitted that Nakamura does not disclose or suggest the presently claimed invention including the read channel arrangement having a substantially continuous variable read channel data processing rate which varies according to the rate at which read head reads the data from the mass memory storage medium in independent Claims 1 and 14, albeit defined as the step of using the head processor to process the data read by the read head by varying the processing rate according to the rate at which the read head reads the data on the medium in the independent Claim 18 and using the write head controller having a continuous variable data storing rate in independent Claim 20.

The frequency band is not continuous and is not the read channel data processing rate consequently, Nakamura does not relate to the presently claimed invention.

Nakamura discloses as evidence by column 7, lines 1-5 that frequency oscillator 6 issues a clock for information reading at a frequency depending on the position on the disk of the optical pickup 2 obtained by the optical pickup position detecting circuit .

Consequently, Nakamura depends on the position in the disk and not the data rate being read.

Nakamura does not relate to writing.

It is respectfully submitted that Claims 1-5, 9, 14, 15, and 18-21 patentably define over the applied art.

### **CONCLUSION**

For the foregoing reasons, Appellants respectfully submit that the Examiner's final rejection of Claims 1-5, 9, 14, 15, and 18-21 under 35 U.S.C. § 102 is not properly founded in law, and it is respectfully requested that the Board of Patent Appeals and Interferences so find and reverse the Examiner's rejections.

To the extent necessary, the Appellants petition for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,



W. Daniel Swayze, Jr.  
Attorney for Appellants  
Reg. No. 34,478

Texas Instruments Incorporated  
P.O. Box 655474, MS 3999  
Dallas, TX 75265  
(972) 917-5633

**APPENDIX**

Claim 1 (original): A mass memory storage device comprising:  
a support arrangement configured to support a mass memory storage medium which stores data at a substantially uniform density;  
a drive arrangement operatively connected to the support arrangement such that the drive arrangement rotates the mass memory storage medium at a substantially constant rotational speed when the mass memory storage device is operated in its intended way;  
a read head for reading the data stored on the mass memory storage medium, the read head being positioned adjacent to the stored data on the medium and the read head being movable relative to the medium such that when the mass memory storage medium is rotated at the constant speed, the data is read at a variable rate; and  
a read channel arrangement for processing the data read by the read head, the read channel arrangement having a substantially continuously variable read channel data processing rate which varies according to the rate at which the read head reads the data from the mass memory storage medium.

Claim 2 (original): A device according to Claim 1, wherein the device is a CD drive and the medium is a CD.

Claim 3 (original): A device according to Claim 1, wherein the CD is a standard format CD in which the data is stored at a substantially uniform density along a spiral track.

Claim 4 (original): A device according to Claim 3, wherein the read head is moved radially as the drive arrangement rotates the CD at a substantially constant rotational speed such that the read head follows and reads data from the spiral track.

Claim 5 (original): A device according to Claim 3, wherein the read channel data processing rate varies in direct relationship with the radial position of the read head,

thereby allowing the read channel arrangement to process the data read by the read head at the rate at which the data is being ready by the read head from the spiral track of the CD.

Claim 6 (withdrawn): A device according to Claim 1, wherein the device is a hard disk drive.

Claim 7 (withdrawn): A device according to Claim 6, wherein the medium is a magnetic memory storage medium having the data stored on the medium at a substantially uniform density over substantially the entire memory storage area.

Claim 8 (withdrawn): A device according to Claim 7, wherein the medium has a data storage format including a spiral track.

Claim 9 (original): A device according to Claim 1, wherein the read head is an optical read head.

Claim 10 (withdrawn): A device according to Claim 1, wherein the read head is a magnetic read head.

Claim 11 (withdrawn): A device according to Claim 1, wherein the device is a floppy disk drive.

Claim 12 (withdrawn): A device according to Claim 11, wherein the medium is a magnetic memory storage medium having the data stored on the medium at a substantially uniform density over substantially the entire memory storage area.

Claim 13 (withdrawn): A device according to Claim 12, wherein the medium has a data storage format including a spiral track.

**Claim 14 (original): A computer system including a mass memory storage device for reading data stored on a data storage surface of a mass memory storage medium, the mass memory storage device comprising:**

**a housing that receives and supports a mass memory storage medium which stores data at a substantially uniform density;**

**a drive assembly operatively connected to the housing such that when the device is operated in its intended way, the drive assembly rotates the medium at a substantially constant rotational speed;**

**a read head for reading the data from the data storage surface of the medium, the read head being movably supported by the housing adjacent to the data storage surface of the medium, thereby causing the read head to read the data stored on the medium such that when the mass memory storage medium is rotated at the constant speed, the data is read at a variable rate; and**

**a read channel arrangement operatively connected to the read head, the read channel arrangement including a read channel processor which processes the data read by the read head and which has a continuously variable data processing rate that is varied according to the rate at which the read head reads the data on the medium.**

**Claim 15 (original): A computer system according to Claim 14, wherein the device is a CD drive and the medium is a CD.**

**Claim 16 (withdrawn): A computer system according to Claim 14, wherein the device is a hard disk drive and the medium is a magnetic memory storage medium which has the data stored on the medium at a substantially uniform density over substantially the entire memory storage area.**

**Claim 17 (withdrawn): A computer system according to Claim 14, wherein the device is a floppy disk drive and the medium is a magnetic memory storage medium which has the data stored on the medium at a substantially uniform density over substantially the entire memory storage area.**



**Claim 18 (original): A method of reading data stored on a mass memory storage medium, the method comprising the steps of:**

**supporting the mass memory storage medium having data stored on the medium at a substantially uniform density;**

**rotating the medium at a substantially constant speed;**

**using a read head, reading the data stored on the medium by positioning the read head adjacent to a desired portion of the medium and moving the read head relative to the medium as the data is read such that when the mass memory storage medium is rotated at the constant speed, the data is read at a variable rate; and**

**using a read head processor having a continuously variable processing rate, processing the data read by the read head by varying the processing rate according to the rate at which the read head reads the data on the medium.**

**Claim 19 (original): A method according to Claim 18, wherein the medium is a medium having data stored on the medium at a substantially uniform density selected from the group including (i) a CD having data stored optically on a data storage surface of the CD, (ii) a hard disk having data stored magnetically, and (iii) a floppy disk having data stored magnetically.**

**Claim 20 (original): A method of storing data on a mass memory storage medium having a substantially uniform data storage density, the method comprising the steps of:**

**supporting the mass memory storage medium for rotation;**

**rotating the medium at a substantially constant speed;**

**using a write head, storing the data to the medium by positioning the write head adjacent to a desired portion of the medium while the medium is rotated at the constant speed and moving the write head relative to the medium as the data is stored; and**

**using a write head controller having a continuously variable data storing rate, storing the data on the medium by varying the data storing rate according to the position of the write head such that the data is stored at a substantially uniform density.**

**Claim 21 (original):** A method according to Claim 20, wherein the medium is a medium selected from the group including (i) a CD having data stored optically on a data storage surface of the CD, (ii) a hard disk having data stored magnetically, and (iii) a floppy disk having data stored magnetically.

**Claim 22 (withdrawn):** A formatted magnetic mass memory storage disk medium, the medium comprising:

a magnetic memory storage material capable of storing data magnetically; and  
a substrate supporting the memory storage material, the memory storage material being arranged in a format in which the data is stored on the disk medium at a substantially uniform density throughout substantially the entire usable memory storage area of the disk medium.

**Claim 23 (withdrawn):** A disk medium according to Claim 22, wherein the format includes a spiral track.

**Claim 24 (withdrawn):** A disk medium according to Claim 22, wherein the medium is a hard disk for use in a hard disk drive.

**Claim 25 (withdrawn):** A disk medium according to Claim 22, wherein the medium is a floppy disk for use in a floppy disk drive.

**EVIDENCE APPENDIX**

Appellants are submitting no items of evidence.

**RELATED PROCEEDINGS APPENDIX**

Appellants have no submission for the Related Proceeding Appendix.